

REMARKS

In view of the following remarks, Applicant respectfully requests reconsideration and allowance of the subject application.

5 **Claim Objections**

Claims 16-20 are objected to on the basis of several informalities. Claims 16-20 have been appropriately amended to address the informalities. The claim objections may now be removed.

10 **35 U.S.C. §112 Claim Rejections**

Claims 6-9 and 17-19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 6-9 and 17-19 have been appropriately amended to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The rejection to claims 6-9 and 17-19 under 35 U.S.C. 112 may now be removed.

35 U.S.C. §102 Claim Rejections

20 **Claims 1, 3, 5-21 and 23-25** are rejected under 35 U.S.C. §102(b) as being allegedly anticipated by Rapp et al. (US 4,175,857) (hereinafter, "Rapp"). Applicant respectfully traverses the rejection.

Rapp teaches an apparatus for transferring photosensitive sheets from the transporting plane into the copying plane of a photographic copying machine. The apparatus has a suction chamber with a perforated cover having a flat upper side that defines the copying plane. The interior of the suction chamber is subdivided into one or more centrally located primary sections.

The primary suction chamber sections are in communication with the intake of a suction pump and two or more secondary sections. The secondary sections communicate with the primary sections by way of narrow passages defined by internal partitions of the suction chamber. A sheet which is advanced in the transporting plane to a position of register with the cover is attracted first to the portion of the cover which overlies the primary sections, and thereupon to the portion of the cover which overlies the secondary sections. The number of primary and secondary sections which communicate with the intake of the suction pump is reduced when the apparatus is used for transfer of smaller sheets. (Abstract)

More specifically, a suction chamber underlying a platform 3 includes a first and second compartment (col. 4, lines 45-60; Figs. 1 and 2). When narrow sheets (i.e., sheets of width A) are to be positioned on platform 3, shutoff valves 19 and 19' are closed so that openings 9 in the second compartment no longer communicate with the suction pump 13 via pipes 11 and 11' and manifold 20 (col. 5, lines 34-48; col. 6, lines 30-36; Figs. 1 and 2). Thus, the force of suction pump 13 is primarily used to attract the narrow sheet over the first compartment of the suction chamber (col. 6, lines 50-55).

Alternatively, when larger sheets (i.e., sheets of width B) are to be positioned on platform 3, shutoff valves 19 and 19' are opened so that openings 9 in the second compartment are in communication with the suction pump 13 via pipes 11 and 11' and manifold 20. The larger sheets are therefore attracted to platform 3 over a larger area overlying both the first and second compartments of the suction chamber (col. 7, lines 30-45; Figs. 1 and 2).

Applicant's claim 1, recites in part:

a platen;
a plurality of vacuum chambers for applying a negative pressure

to a media positioned on the platen; and
a vacuum source in permanent air communication with holes in
the platen through the vacuum chambers.

The Office asserts that Rapp teaches the elements of claim 1 at Figs. 1 and 2, col. 3, line 64, col. 4, lines 45-67, col. 5, lines 1-37. However, Rapp teaches 2 vacuum/suction chambers (2 primary suction chamber sections) which are designated as follows:

- 5 1) A first suction chamber includes primary section I-A and outer section II-A;
- 2) A second suction chamber includes primary section I-B and outer section II-B.

The first suction chamber in Rapp (i.e., I-A and II-A) is a compartment
10 defined by the housing 2, platform 3, intermediate walls 2c, and two vertical end walls 2b. The first suction chamber is intended to "attract a sheet having the width A" to platform 3 (col. 4, lines 45-50; Figure 1). When narrow sheets (i.e., sheets of width A) are positioned on platform 3, shutoff valves 19 and 19' are closed so that openings 9 in the second compartment no longer
15 communicate with the suction pump 13 via pipes 11 and 11' and manifold 20. Thus, in Rapp, when a media smaller than the platen width is loaded, air flow communication between the platen (platform 3) and the vacuum source (suction pump 13) is interrupted by shutoff valves in order to control air losses to the system (col. 5, lines 34-48; col. 6, lines 30-36; Figs. 1 and 2). This is not
20 the same as Applicant's claim 1, where vacuum chambers provide permanent air communication between the vacuum source and holes in the platen. No valves are used in Applicant's claimed invention to control the flow of air or to control air losses, and air flow communication between the vacuum source and the platen is not broken.

Similarly, the second suction chamber in Rapp (i.e., I-B and II-B) is a compartment defined by the housing 2, platform 3, intermediate walls 2c, and two end walls 2b. The second compartment of Rapp's suction chamber is intended to attract a sheet "having the width B" (col. 4, lines 45-48; Figure 1).

5 When larger sheets (i.e., sheets of width B) are positioned on platform 3, shutoff valves 19 and 19' are opened so that openings 9 in the second compartment are in communication with the suction pump 13 via pipes 11 and 11' and manifold 20. The larger sheets are therefore attracted to platform 3 over a larger area overlying both the first and second compartments of the

10 suction chamber (col. 7, lines 30-45; Figs. 1 and 2). Thus, as noted above, air flow communication is broken by shutoff valves to control air losses to the system when different sized media are loaded on the platen (col. 5, lines 34-48; col. 6, lines 30-36; Figs. 1 and 2). This is not the same as Applicant's claim 1, where vacuum chambers provide permanent air communication between the

15 vacuum source and holes in the platen. No valves are used in Applicant's claimed invention to control the flow of air or to control air losses in the system, and air communication between the vacuum source and the platen is not broken.

For at least the reasons noted above, it is clear that Rapp does not teach

20 all of the elements of Applicant's claim 1. As stated in MPEP § 2131, "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." Because Rapp does not disclose all elements of Applicant's claim 1, Rapp cannot be said to anticipate claim 1. Applicant therefore respectfully requests

25 that the §102 rejection of claim 1 be withdrawn.

Claims 3 and 5-10 are also rejected under §102 as being allegedly anticipated by Rapp. Claims 3 and 5-10 depend directly or indirectly from

claim 1 and thereby incorporate the elements of claim 1. Therefore, claims 3 and 5-10 are allowable by virtue of at least this dependency from allowable claim 1, in addition to further elements recited therein that are not taught by Rapp. Applicant therefore respectfully requests withdrawal of the §102 rejection of claims 3 and 5-10.

Claim 11 includes one or more elements that parallel those discussed above regarding claim 1. Specifically, claim 11 recites in part:

a platen; and
a plurality of vacuum chambers for applying a negative pressure to a media configured to advance across the platen and for maintaining permanent air communication between holes in the platen and a vacuum source, wherein for at least part of the length of the platen, said vacuum chambers are arranged one behind the other in the direction of media advance and are connected to the vacuum source through a hollow vacuum conduit.

As clarified in a similar manner above, Rapp does not teach permanent air communication between holes in the platen and a vacuum source. Rather, Rapp teaches the use of valves which break the air communication between the platen and the vacuum source in order to control of air flow and air losses in the system when different sized media is loaded onto the platen.

Accordingly, for at least these reasons, Rapp does not disclose the elements of Applicant's claim 11. Therefore, Rapp cannot be said to anticipate claim 11, and Applicant respectfully requests that the §102 rejection of claim 11 be withdrawn.

Claims 12 and 13 are also rejected under §102 as being allegedly anticipated by Rapp. Claims 12 and 13 depend from claim 11 and thereby incorporate the elements of claim 11. Therefore, claims 12 and 13 are allowable by virtue of at least this dependency from allowable claim 11, in addition to further elements recited therein that are not taught by Rapp.

Applicant therefore respectfully requests withdrawal of the §102 rejection of claims 12 and 13.

Claim 14 includes one or more elements that parallel those discussed above regarding claim 1. Specifically, claim 14 recites in part:

a platen; and
a plurality of vacuum chambers for applying a negative pressure to a media positioned on the platen with respective walls separating adjacent pairs of vacuum chambers along the platen, the vacuum chambers having a plurality of openings providing permanent air communication between holes in the platen and a vacuum source, and .

5 As clarified in a similar manner above, Rapp does not teach "vacuum chambers having a plurality of openings providing permanent air communication between holes in the platen and a vacuum source". As noted above, Rapp teaches the use of valves which break the air communication between the platen and the vacuum source in order to control of air flow and air
10 losses in the system when different sized media is loaded onto the platen.

Thus, Rapp does not disclose all elements of Applicant's claim 14, and Rapp cannot be said to anticipate claim 14. Applicant therefore respectfully requests that the §102 rejection of claim 14 be withdrawn.

Claim 15 is also rejected under §102 as being allegedly anticipated by
15 Rapp. Claim 15 depends from claim 14 and thereby incorporates the elements of claim 14. Therefore, claim 15 is allowable by virtue of at least this dependency from allowable claim 14, in addition to further elements recited therein that are not taught by Rapp. Applicant therefore respectfully requests withdrawal of the §102 rejection of claim 15.

20 Claim 16 includes one or more elements that parallel those discussed above regarding claim 1. Specifically, claim 16 recites in part:

providing a plurality of openings in the vacuum chambers to maintain a permanent air communication between the platen and the vacuum source.

As clarified in a similar manner above, Rapp does not teach "a plurality of openings in the vacuum chambers to maintain a permanent air communication between the platen and the vacuum source". Instead, Rapp teaches the use of valves which break the air communication between the platen and the vacuum source in order to control of air flow and air losses in the system when different sized media is loaded onto the platen.

Thus, Rapp does not disclose all elements of Applicant's claim 16, and Rapp cannot be said to anticipate claim 16. Applicant therefore respectfully requests that the §102 rejection of claim 16 be withdrawn.

Claims 17-20 are also rejected under §102 as being allegedly anticipated by Rapp. Claims 17-20 depend from claim 16 and thereby incorporate the elements of claim 16. Therefore, claims 17-20 are allowable by virtue of at least this dependency from allowable claim 16, in addition to further elements recited therein that are not taught by Rapp. Applicant therefore respectfully requests withdrawal of the §102 rejection of claims 17-20.

Each of claims 21 and 23-25 includes one or more elements similar to those already discussed above regarding claim 1. Accordingly, claims 21 and 23-25 and are not anticipated by Rapp for at least the same reasons already noted above. Applicant therefore respectfully requests withdrawal of the §102 rejection of claims 21 and 23-25.

Claims 14-19, 21 and 24 are rejected under 35 U.S.C. §102(e) as being allegedly anticipated by Juan et al. (US 6,367,999) (hereinafter, "Juan"). Applicant respectfully traverses the rejection.

Juan teaches a hardcopy apparatus that includes a media holddown unit having a platen, and a vacuum source for generating negative pressure on a medium positioned on the platen to keep it flat on the platen. The unit includes at least two vacuum chambers, both in air communication with the vacuum source. Each of the vacuum chambers can apply a negative pressure to a different portion of the medium positioned on a corresponding different region of the platen. (Abstract).

As noted above, claim 14 recites in part:

a platen; and
a plurality of vacuum chambers for applying a negative pressure to a media positioned on the platen with respective walls separating adjacent pairs of vacuum chambers along the platen, the vacuum chambers having a plurality of openings providing permanent air communication between holes in the platen and a vacuum source, and .

...

Among other things, Juan does not teach "a plurality of vacuum chambers . . . with respective walls separating adjacent pairs of vacuum chambers along the platen". Juan does not teach pairs of vacuum chambers at all. Nor does Juan teach adjacent pairs of vacuum chambers along the platen or respective walls separating adjacent pairs of vacuum chambers. In Juan, there are only two chambers, not pairs of chambers. In addition, the two chambers in Juan are arranged across the width of the platen. (col. 5, lines 9-12; Figs. 4, 6, 7).

For at least these reasons, it is clear that Juan does not teach all of the elements of Applicant's claim 14. Because Juan does not disclose all elements of Applicant's claim 14, Juan cannot be said to anticipate claim 14. Applicant therefore respectfully requests that the §102 rejection of claim 14 be withdrawn.

Claims 15-19 are also rejected under §102 as being allegedly anticipated by Juan. Claims 15-19 depend from claim 14 and thereby incorporate the elements of claim 14. Therefore, claims 15-19 are allowable by virtue of at least this dependency from allowable claim 14, in addition to
5 further elements recited therein that are not taught by Juan. Applicant therefore respectfully requests withdrawal of the §102 rejection of claims 15-19.

Each of claims 21 and 24 includes one or more elements similar to those already discussed above regarding claim 14. For example, each of claims 21 and 24 recites "a plurality of vacuum chambers for applying a negative
10 pressure to a media positioned on the platen with respective walls separating adjacent pairs of chambers along the platen". As noted above, Juan does not teach pairs of vacuum chambers, adjacent pairs of vacuum chambers along the platen, or respective walls separating adjacent pairs of vacuum chambers. Accordingly, claims 21 and 24 are not anticipated by Juan for at least the
15 same reasons already noted above. Applicant therefore respectfully requests withdrawal of the §102 rejection of claims 21 and 24.

Claims 1, 7, 11, 12, 23 and 25 are rejected under 35 U.S.C. §102(e) as being allegedly anticipated by Mindek et al. (US 6,322,265) (hereinafter, "Mindek"). Applicant respectfully traverses the rejection.

20 Mindek teaches a vacuum work bed for supporting a sheet material to be worked upon. The vacuum work bed includes a work bed having a work surface for supporting the sheet material, the work surface including a plurality of apertures for applying suction to the sheet material, the apertures separated into first and second zones for accommodating sheet material of different sizes
25 and orientations; a suction source for applying suction to the apertures; a manifold for providing fluid communication between the suction source and the apertures for applying the suction thereto; and a sensor in fluid

communication with the suction source for providing a signal responsive to the degree of vacuum drawn by the suction source on the apertures. The flow rate through one of the zones of apertures is restricted for producing a greater than nominal degree of vacuum when the one zone includes unblocked apertures.

5 (col. 2, lines 25-42).

As noted above, each of claims 1, 7, 11, 12, 23 and 25 includes one or more elements that parallel those discussed above regarding claim 1. That is, each of claims 1, 7, 11, 12, 23 and 25 generally includes a plurality of vacuum chambers having a plurality of openings providing permanent air
10 communication between the platen and a vacuum source.

With respect to claims 1, 7, 11, 12, 23 and 25, the Office cites Mindek for its purported discussion of plenums as vacuum chambers forming a first component and hollow vacuum conduits forming a second component. However, the Office does not cite Mindek for any teaching or suggestion of
15 elements including a plurality of vacuum chambers having a plurality of openings providing permanent air communication between the platen and a vacuum source. Furthermore, Applicant cannot find any such teaching or suggestion in Mindek regarding such elements. Rather, similar to Rapp above, Mindek teaches flow restriction elements 190 (A-E) (i.e., valves) interposed
20 between suction source and the apertures to allow the system to control loading and the tension of sheets of different sizes (col. 15, line 43 et seq.)

Accordingly, Mindek does not remedy the deficiencies of Rapp noted above, and claims 1, 7, 11, 12, 23 and 25 are allowable over Mindek for at least the same reasons they are allowable over Rapp and Juan. Because Mindek
25 does not disclose all elements of Applicant's claims 1, 7, 11, 12, 23 and 25, Mindek cannot be said to anticipate claims 1, 7, 11, 12, 23 and 25. Applicant

therefore respectfully requests that the §102 rejection of claims 1, 7, 11, 12, 23 and 25, based on Mindek be withdrawn.

35 U.S.C. §103 Claim Rejections

5 Claims 2 and 4 are rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Rapp and further in view of Beechler et al. (US 6,328,491) (hereinafter, "Beechler"). Applicant respectfully traverses the rejection.

As noted above, claims 2 and 4 depend from claim 1 and therefore include the elements of claim 1. That is, claims 2 and 4 include a plurality of vacuum chambers having a plurality of openings providing permanent air
10 communication between the platen and a vacuum source.

With respect to claims 2 and 4, the Office cites Beechler for its purported discussion of a variety of materials that can be used to construct a first and second component, including the production of a first component
15 using plastic, and the production of a second component using metal. However, the Office does not cite Beechler for any teaching or suggestion of elements including a plurality of vacuum chambers having a plurality of openings providing permanent air communication between the platen and a vacuum source. Furthermore, Applicant cannot find any such teaching or
20 suggestion in Beechler regarding such elements.

Accordingly, Beechler does not remedy the deficiencies of Rapp noted above, and claims 2 and 4 are allowable over the combination of Rapp and Beechler. Because Beechler and Rapp, alone or in combination, fail to disclose all elements of Applicant's claims 2 and 4, the obviousness rejection is not
25 supported. Applicant therefore respectfully requests that the §103 rejection of claims 2 and 4 based on Rapp and Beechler be withdrawn.

Claims 22 and 26 are rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Rapp and further in view of either Wotton et al. (US 6,336,722) (hereinafter, "Wotton") or Teumer et al. (US 6,179,285) (hereinafter, "Teumer"). Applicant respectfully traverses the rejection.

5 Wotton teaches an ink-jet printer that includes at least one print cartridge that contains liquid ink within a reservoir. The reservoir is connected to a print head that is mounted to the body of the cartridge. The print head is controlled for ejecting minute droplets of ink from the print head to a print medium, such as paper, that is advanced through the printer. Heat is uniformly conducted to
10 print media in an ink-jet printer in conjunction with the uniform application of vacuum pressure to the media for supporting the media as it is conveyed on a heated belt through the printer. The heat is applied to the media by conduction, in a manner that does not overheat the print head of the printer nor interfere with the trajectory of the droplets expelled from the print head. The heat is
15 applied to the media in the print zone as well as regions on either side of the print zone where the media enters and exits the print zone. The amount of heat applied to each of these regions is independently controlled, and can be related to the physical characteristics of the particular type of print media or inks that are used. (Abstract; col. 1, lines 10-15).

20 Teumer teaches a media transport system for transporting a media sheet in a marking device. The system includes an entrance drive assembly, an exit drive assembly and a vacuum generator that applies a vacuum force to the media sheet to form a wide, flat printing zone. The entrance drive assembly receives and transports the media sheet in a process direction by contacting top
25 and bottom surfaces of the media sheet, thereby exerting an entrance drive force on the media sheet. The exit drive assembly receives and transports the media sheet by contacting the top and bottom surfaces of the media sheet,

thereby exerting an exit drive force on the media sheet. The vacuum force is applied to the media sheet in an area of the media sheet between the entrance drive assembly and the exit drive assembly. The vacuum force on the media sheet acts in a vacuum force direction substantially normal to the process direction. The vacuum force is set such that the entrance drive force and the exit drive force in the process direction each exceed the vacuum force acting in the vacuum force direction. (Abstract).

As noted above, claims 22 and 26 include one or more elements that parallel those discussed above regarding claim 1. That is, claims 22 and 26 include a plurality of vacuum chambers having a plurality of openings providing permanent air communication between the platen and a vacuum source.

With respect to claims 22 and 26, the Office does not cite Wotton or Teumer for any teaching or suggestion of elements including a plurality of vacuum chambers having a plurality of openings providing permanent air communication between the platen and a vacuum source. Furthermore, Applicant cannot find any such teaching or suggestion in Wotton or Teumer regarding such elements.

Accordingly, Wotton and Teumer do not remedy the deficiencies of Rapp noted above, and claims 22 and 26 are allowable over the combination of Rapp, Wotton and Teumer. Because Rapp, Wotton and Teumer, alone or in combination, fail to disclose all elements of Applicant's claims 22 and 26, the obviousness rejection is not supported. Applicant therefore respectfully requests that the §103 rejection of claims 22 and 26 based on Rapp, Wotton and Teumer be withdrawn.

Conclusion

Pending claims 1-27 are in condition for allowance. Applicant respectfully requests reconsideration and issuance of the subject application. If any issues remain that preclude issuance of this application, the Examiner is urged to contact the undersigned attorney before issuing a subsequent Action.

Respectfully Submitted,

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By: Nathan R. Rieth

Nathan R. Rieth
Reg. No. 44302
(509) 324-9256; X233